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Extension Service Review

VOL. 2, No. 2 FEBRUARY, 1931

GOOD PASTURAGE IS INDISPENSABLE IN THE DAIRYING PROGRAM

ISSUED MONTHLY BY THE EXTENSION SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

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Extension Service Review

VOL. 2 WASHINGTON, D. C., FEBRUARY, 1931 NO. 2

Developing Dairy Extension

O. E. REED

Chief, Bureau of Dairy Industry
United States Department of Agriculture

WHAT are the aims and purposes of a dairy-production extension program? How do the extension agents and specialists fit into the program which has for its ultimate goal a better economic status and a high standard of living for the people engaged in this basic industry, the dairy industry?

The real motive back of all the scientific and research investigations of our Federal and State research organizations and experiment stations is the gaining of new knowledge which can be applied to the problems of those engaged in industry.

The extension specialist may be properly called a liaison officer who makes and maintains contact between the group of scientists and research workers and the people who are engaged in the commerce of the industry. His work is, or should be, two-fold—that of extending to the industry, through extension channels, the results of the research and experimental findings of laboratory and farm, and of making a study of the needs of the industry in order to help the research group better to apply their efforts to the present practical problems in the field.

Meeting of extension specialists of Bureau of Dairy Industry. Left to right: J. B. Parker, dairy subject-matter extension specialist for the Eastern States; A. B. Nystrom, specialist for the Central States; O. E. Reed, chief of the Bureau of Dairy Industry; J. H. McClain, specialist for the Southern States; and R. C. Jones, specialist for the Western States. These specialists are cooperating through the Office of Cooperative Extension Work of the United States Department of Agriculture with State extension divisions in supplying the results of dairy research and experimental work to the dairy industry in all the States in their respective regions

Extension Programs

As I see the situation, there are two reasons why more of our specialists do not carry out this large and complete program: Either the specialist does not have enough time to consider more than one side of the problem, or he is not sufficiently trained in the sciences and practices of the industry to enable him to carry out the larger program.

A well-rounded extension program demands just as highly trained personnel as does research work or the profession of teaching. I believe the present trend is in the direction of a demand for better-trained extension personnel. This demand is being recognized by many extension specialists and agents who feel the necessity for additional training and are taking up graduate work. There is certainly as great an opportunity for rendering real service to agriculture and the country at large through a well-organized plan of extension work as there is in the teaching and research fields.

The aim of the most successful extension worker in dairy production is, then, to make a constant study of, and to extend the facts and general information regarding practices in, the breeding, feeding, economics, and management of dairy cattle, and in the sanitary production and marketing of milk and cream, to the end that the production and economic phases of the dairy industry will be placed upon the most efficient basis.

In order to promote the correlation of dairy research and dairy extension work, a cooperative arrangement has been worked out by the Office of Cooperative Extension Work and the Bureau of Dairy Industry of the Department of Agriculture. Under this arrangement, which is already in operation, four Federal dairy extension field men have been employed, one for each of the four main administrative extension regions of the United States. The work of these men, as outlined by the cooperating agencies, will be, in general, along four major lines: First, to work out with the research staff of the Bureau of Dairy Industry, from the results of its dairy-production investigational work, and from the research work of other agencies as well, those features which will result in more efficient dairy production when they are applied in practice; second, to work out, with the Office of Cooperative Extension Work, the extension methods which will be the most effective for getting the research findings into practice on the farm; third, to work with the State dairy extension specialists and other State extension agencies in extending the subject matter of their programs by the use of these methods; and fourth, to study both subject-matter work and successful extension methods as found in the field.

It is necessary also to make a study of conditions in the territory to determine the present status of dairying, the

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trends, and the needs for specific lines of endeavor, in order to correlate the research work and the application of extension methods. The work involves cooperation with the State extension directors and their dairy extension specialists, in developing the most effective types of dairy programs, and a study of the application of the dairy programs in the field to determine their relative effectiveness. Specific work along the various lines has already resulted in greater effectiveness in a number of directions, and in the addition of new phases of subject matter.

Program Development

An analysis of the dairy extension projects that are now being carried on by the State extension specialists and agents shows that, with few exceptions, they are confined to feeding schools, selection of herd sires, organizing dairy herd-improvement associations, and similar educational and service work. Great progress has been made in teaching the fundamentals of feeding, and, through the dairy herd-improvement associations, much has been accomplished toward a better understanding of the necessity of better selection of breeding animals. But in the very important field of improving the quality of dairy products, very little has been accomplished thus far through our extension organizations, because of a lack of activity built around definite and well-organized projects in this field.

For the most part, dairy extension programs have been planned to meet the needs of beginners in the production field, and although this effort has been fruitful of results, such a program does not entirely meet the need of those farmers and dairymen who are more advanced in their methods and practices. It has been demonstrated that a considerable number of dairymen are eager for a more advanced program. The real progressive dairyman who is a leader in his community is willing to accept facts that have been developed through research, because he has an ever-increasing faith in the work of the experiment stations. The extension worker should, then, develop a program that will meet the current needs of these leaders; and the application of the principles taught to these leaders will, in turn, serve as a demonstration for better practices in their community.

Applying Results

Only too frequently the reason why the dairyman fails to apply the best knowledge in his business is the fact that it is difficult to present the technical information to him in such a simple, readily understandable way that he can grasp it and apply it. It should be the duty of the dairy extension specialist to work out, in cooperation with the research staff, the application of the results so that the dairyman can understand and use them. For example, let us consider the application of Mendel's law as applied to the inheritance of the production of milk and the percentage of fat in dairy cattle.

For years Mendel's law has been known to the scientist, but not until recently have investigators shown how the application of the law might be used for the improvement of our dairy cattle. At the National Dairy Exposition in St. Louis last year the division of dairy-cattle breeding, feeding, and management investigations of the Bureau of Dairy Industry held a school for the purpose of demonstrating to the educator and the breeder the scientific facts underlying the improvement of dairy cattle. In this school the laws of inheritance, which have heretofore been considered too complicated to put over to the layman, were taught by means of photographic charts and the herediscope, a simple mechanical device developed for the purpose of illustrating the chance transmission of various characters from parent to offspring. When the breeder or dairyman becomes familiar with the laws of inheritance as applied to dairy-cattle breeding, he at once sees the necessity for having production records on all the animals in his herd, and for using only sires of known ability for transmitting high production. This school of dairy-cattle breeding as conducted at the exposition is now being duplicated by dairy extension men in many States. We believe that as a result of this extension teaching of the scientific principles of breeding, the next few years will see a very rapid improvement in the dairy cattle of this country.

Feeding and Management

In respect to the feeding and management of our dairy herds, we find many instances where practices which were once considered to be the best known are still being followed although they are now out of accord with present-day knowledge. Results of experiments which shed new light upon the relative value of feedstuffs have been published in experiment-station bulletins, but they have not yet been generally adopted by farmers and dairymen. The value and use of comparatively new grasses and plants in relation to milk production, and methods of curing and handling these crops in order to obtain the greatest food value from them, may be cited as an example.

Then, there is the question of the application of research in relation to the sanitary production of milk and cream on the farm. This field has been much neglected. Methods have been worked out which can be made use of in the improvement of the quality of milk, not only in the adult field but also in the junior field, particularly through the 4-H club groups. The importance of sanitation in the production of milk and cream in relation to the consumption of fluid milk and cream, and in fact, of all dairy products, can not be overemphasized. The use of new machinery, such as milking machines and other equipment, offers to the large as well as the smaller producer the means for producing economically a better and more wholesome product. Information as a result of investigations along this line is available, but it awaits inclusion in the extension program.

Then, there is the problem of coordination and correlation of the State dairy extension program with the soils and crop and home demonstration extension programs. Joint projects can be, and should be set up, with the dairy group and these other groups of extension workers all cooperating.

Literature

Finally, the question of dairy extension literature and publicity in general should be given more consideration. More written material for publication as bulletins and as articles for the press, which will adequately interpret the findings of the research work, should be made available, so that these results can be put into actual practice on the farm and in the farm home. In general, we find that there is a great lack of interpretative publications of this kind that are available for distribution among the producers.

National 4-H Radio Program, March 7

Music by Austrian and German composers will be broadcast by the United States Marine Band on the March 7 4-H radio program as follows:

Hungarian Dance No. 5	Brahms
Ride of the Valkyries	Wagner
Traumerei	Schumann
Blue Danube	Drdla
Minuet in G	Beethoven
Liebestraum	Liszt

To determine the condition of the health of the preschool child in rural Nevada, the State agricultural extension service has been engaged in a survey of rural families in nine Nevada counties. Only children under 6 years of age were included in the survey. In interviewing the families, the county and district women extension agents have asked among their questions whether the children have ever received a health examination.

Annual Farm Inventory in New York

DURING December, January, and February several thousand farmers in New York State are taking an inventory of their farm business, according to M. C. Bond, farm management specialist in that State. Most of these farmers have taken inventories in previous years and therefore are able to figure out the financial progress made in 1930 and compare it with other years. A large number of these farmers are also filling out the credit statement in the back of the inventory book and filing a copy with the local bank.

Some years ago Dr. C. E. Ladd, now director of extension in New York, prepared a farm inventory book. For several years the farm management demonstrator with the cooperation of the county agents held farm inventory meetings. Some of these were in the nature of a school at a community hall or farm bureau committeeman's home, where each farmer was given an inventory book and pencil and filled in the major items as the specialist explained the inventory book, page by page. Of course it was impossible to enter all items at such a meeting, so farmers were urged to complete the work at home.

A farmer discusses his credit statement with his banker

Inventory Meetings

Other meetings were held at barns. These gave a good opportunity to help farmers set values on equipment and small tools, and learn how to estimate the amount of hay in the barn, silage in the silo, and grain in the bins. This kind of meeting teaches the farmer that the taking of an inventory requires little time, and it shows him the satisfaction to be had from knowing what he owns and owes and what his net worth is.

These two kinds of meetings are still in use but are no longer attended by a specialist from the college. Many county agents discuss farm inventory at meetings during the winter months and help farmers take their first inventory. The college plays a less important rôle in the field work as this service grows. County agents and rural bankers make most of the contacts with farmers, supply them with inventory books, and assist in taking the inventory and filling out the credit statement in the back of the book.

This inventory work as carried on at present takes the form of a campaign. The first full week in January is designated as inventory week. The college supplies posters announcing farm inventory week. These are distributed by county agents to grange halls, feed stores, milk plants, and other places where farmers congregate. They are also distributed to all the rural bankers by the key banker appointed in each agricultural county by the agricultural committee of the New York State Bankers Association.

The college supplies county agents and rural bankers with inventory books without charge. These are distributed to farmers at meetings, by mail, and by farmers calling at the farm bureau office.

Credit Statements

One of the more recent developments in the work is the credit statement blank in the back of the inventory book. This blank has been approved by the Federal Reserve Bank of New York as a desired type of statement supporting loans to farmers. Many rural banks now require that farmers, like other business men, file a credit statement at the bank as a basis for credit. The agricultural committee of the New York State Bankers Association has indorsed the inventory campaign of the extension service for several years. Key bankers have cooperated in many ways but especially by acting as contact agents between all rural banks and the college. Many key bankers work very closely with the county agricultural agent in this inventory work.

Rural banks that require a credit statement are in a better position to determine the amount of credit they can safely extend each farmer and they also have information which is essential in giving each farmer sound financial advice. Some bankers require only credit statements for all agricultural loans above a certain minimum, such as $200, $500, or $1,000. From the point of view of both the banker and the farmer, the credit statement has helped to bring im-

provement in financial condition and more businesslike methods.

From a check-up in four counties last year it was found that 31 per cent more farmers took inventories in 1929 than in 1928 and about 4 per cent more filed credit statements with their bank. Last year the college sent out about 16,000 farm inventory books.

Radio talks are given by county agents at their county stations and by agents and farm management specialists at the larger stations in the State. County agents are also supplied with outline talks on the value of farm inventory and credit statement. Articles appear in the agricultural press during December and January.

To the county agents, bankers, and college specialists, one of the gratifying things about this work is the large number of farmers who tell the value of the inventory and credit statement to them. Some report a loss by fire and because of the inventory a prompt and satisfactory adjustment; others better business methods in purchasing feed, seed, and supplies, such as paying cash and getting a discount; and still others a more careful study of their business followed by reorganization and improved financial condition.

Extension Work Among Young Men

Recognizing that a rather wide gap existed in extension attack between the time boys' and girls' club work leaves off and the extension work with adult farmers begins, J. C. Hale, county agent in El Paso County, Colo., began blazing a new trail in 1927. He organized the farm science club composed of young men, each of whom had been a 4-H club member for several years. Each member was assigned an individual project of his own—a man-sized project. Some of these projects included variety tests of crops, feeding demonstrations, keeping of farm records, and records of tractor operations.

In addition to these individual demonstrations the club itself has undertaken each year something of a county-wide or community-wide nature such as the planting of trees along the highway, establishing a tree nursery, taking care of exhibits at the county fair, and furnishing leaders to 4-H clubs.

The club holds monthly meetings at which the members have worth-while discussions of the progress made on their individual projects. The county agent meets with them and sometimes arranges for other members of the extension or college force to address them. This effort, which is now three years old, has demonstrated a successful line of attack in doing extension work with young men and developing a separate set of appeals to which they respond.

Tree Planting in Wyoming

Tree-planting work in Wyoming under the Clarke-McNary Act began four years ago and now is an established project, according to W. O. Edmondson, extension forester and horticulturist in that State. During 1927 and 1928 the work was handled entirely through the department of experiment farms of the University of Wyoming, but an extension forester was employed in January, 1929. Since then the department of experiment farms has continued the work

Chokecherry and other native shrubbery were used around school buildings and homes

of distributing 1 to 3 year old seedling trees from the State farm at Lander, Wyo., while the extension service has carried on an educational campaign through such activities as encouraging the planting of trees, emphasizing the proper preparation of the ground for planting, and drawing plans for shelter belts. Under this arrangement 43,000 trees were distributed to ranchers for shelter-belt plantings in 1929. In 1930, although orders were received for 110,000 trees, only 87,000 trees were available for distribution. In addition to this distribution, it is estimated that about 45,000 other trees were planted in 1930. Plans are now being made to have about 160,000 trees available for distribution this year.

The Great Plains Experiment Station at Mandan, N. Dak., has been sending trees for shelter belts into Wyoming for the last 12 years or so, and it has been found that where shelter belts have been planted the farmers are thoroughly convinced of their practicability. In such sections the demand for trees is keener than in the sections where there are no actual demonstrations of the value of this protection.

School Yards

The extension workers in the counties are trying to realize the following goal: "To have a protection of trees around every rural schoolhouse in the State." Mr. Edmondson reports that although this work is rather new, shelter belts and ornamental shrubs have been planted around many of the school buildings. The school boards, and women's clubs in some communities, take the responsibility for the supervision of these plantings. They believe that the trees will serve as future monuments to the honor and memory of the children, and in some places they have named the trees for certain children. This is found especially desirable where the trees are planted at an Arbor Day exercise by the children themselves. All this activity in schools stimulates the interest of the children.

Last April 700 shelter-belt trees were planted in two hours on the west side of the farm buildings on a private ranch to furnish protection from the strong west winds and drifting snows. This work was under the supervision of Mr. Edmondson and F. A. Chisholm, Park County agricultural agent; the local Smith-Hughes teacher assisted with 25 boys from his class. The ranch owner plowed out 350-foot furrows, two boys distributed the trees at intervals along these furrows, and the other boys planted the trees. It took an average of one minute to place a tree properly and pack the dirt well around the roots. This arrangement saved the farmer labor and gave the boys practical experience and information in establishing shelter belts.

Railroads and the State highway department are also taking advantage of the distribution of these trees. They use the trees not only for the beautification of the rights of way, but to prevent the snow from drifting onto the tracks and roads.

The varieties of trees which have proved hardy in most sections of Wyoming include box elder, blue spruce, chokecherry, cottonwood, green ash, western yellow pine, northwest and silver poplars, caragana, Russian olive, Chinese elm, American elm, and willows (under irrigation). The caragana, western yellow pine, and cottonwood were most popular last year.

The White House Conference and the Extension Service

MARTHA VAN RENSSELAER
Assistant Director, The White House Conference

THE WHITE House Conference on Child Health and Protection has found in the Extension Service of the United States Department of Agriculture strong allies both in the preparation of conference reports and in plans for continuing the work of the conference until its findings and recommendations reach the States, the counties, and the communities.

Home economics extension includes those subjects which would improve the environmental conditions for the family, while the extension service has more and more reached out to modify community life to make it a fitting place in which to prepare children and youth for citizenship.

xtension Participation

Home makers, both men and women, are asking for guidance through the extension service by which they may improve the mental, emotional, and physical health of their families. It is opportune, therefore, that the White House Conference, recently held in Washington, D. C., at the call of the President of the United States, should find in this well-organized group, opportunity for promoting the findings of this conference.

Due to the proximity of dates for the meeting of the Association of Land-Grant Colleges and Universities and the White House Conference, held in Washington in November, many extension workers were able to attend both meetings. The presence of deans of State colleges, State directors of extension, State leaders of home demonstration agents and specialists in child guidance and nutrition gave opportunity for a working knowledge of the conference findings by which to develop a program for every State in the interest of those who have definitely organized to improve their standards of home and community life.

The White House Conference is an effort to provide for the conservation of the Nation's human resources by renewing interest in childhood and youth. It parallels the effort of the Government to provide for the conservation of our natural resources.

Improving Environment

In the program already adopted to improve the physical environment of the family there is recognized an effort to gain for the family members a freedom for the enjoyment of those things which add to the spiritual and mental well-being of the family. Many home makers would like to spend less time on unessential, unstandardized methods of housework and more on those things which are of real significance in family understandings, family enjoyments, and contacts with the outside world. They look for stimulus in more interesting and intelligent methods of doing their work; to participate in things social and worth while in order to bring back to their families cheerful, not discouraging, service. Such a program is conducive to less fatalism and more altruism in regard to the stability of the home. It calls for better qualifications for marriage; less monotony in housework; a larger sense of participation in financial independence; an appreciation of books, music, and art; better hygienic living; shorter hours for work, which come with better planning; more economic floor plans; more knowledge of feeding the family for efficiency; a better understanding of how to rear and guide children.

Problems of the Home

It is anticipated that the White House Conference will unite with the Federal, State, and municipal groups, men and women engaged in scientific fields to create a more sympathetic attitude toward the problems of the home with children in it, and to demand greater ability and knowledge in those who are responsible for the guidance of children. A task imposed upon adults is to create social forces which will respond to the right of children to be well born and safely started in society with power to take care of themselves and with the ability to live safely together.

The child of the city and the child of the open country have received equal attention in the studies of the White House Conference. The searchlight has been thrown on the rural home, surrounded by vast stretches of unpopulated land, and on the family crowded in the tenement; on the rural school and on the school of many grades in the large city; on the child working in the field and in the factory.

Boys and girls in farm homes need aid on personal problems to counteract the geographical separation from their neighbors. Girls on farms need help in modernizing household problems as boys have had help in establishing modern farm practices. In no other way can social life be built up and domestic stability secured among young rural people who will be expected to become the Nation's farmers.

Land-grant colleges have incorporated educational opportunities for farm girls, for without the interest which comes from knowledge and skill they will have no interest in farm home making. The farm boy, to whom is offered at the expense of the State training for the business of farming, must expect to be able to find an equally intelligent home partner since the success of the farm depends in large measure upon the farm home and the cooperation of the farm family.

Handicapped Children

The White House Conference gave special attention to the handicapped child. There are from three to five million such children in the United States. Even in cities, provisions for these children are far from adequate. There are rural sections, practically unexplored areas, where handicapped children grow up, undiscovered and unaided.

The chief hope of helping these children is to find them, discovering their defects early enough to alleviate them. Science has perfected instruments to discover and aid defective hearing and defective sight. It has devised help through treatment for the cripple—even means of making life more livable for the mentally deficient.

The strong, healthy farm boy or girl is one of the richest assets we have in this country. His sister or brother who has some handicap to overcome must be looked upon as an asset, too, and it is our privilege to help him to the maximum of his possibilities.

One of the big problems pointed out by the White House Conference is that of developing facilities to bring to the child in the rural home who has a handicap to battle with, all that science, medicine, and invention have given to the city child; and where such facilities can not be brought to the child, ways to take the child to the facilities.

Representatives of the Extension Service of the United States Department of

Agriculture have been asked to cooperate with the White House Conference in the preparation of a program based upon the findings and recommendations of the conference. As fast as reports of supporting data for the conference findings are received they will be edited for publication and adapted for Government groups, schools, colleges, and educational organizations which conduct programs for the child.

The committee of the conference which asked the home demonstration agents to conduct a survey in rural communities, has obtained through this means a picture of child health which, when tabulated, will be of great value not only to the conference but to extension workers whose formation of a State program is to be based upon a knowledge of health practices in the homes with which they are working.

Home-Management Studies

The report of the committee on rural home-management studies, which was made at the meeting of the Association of Land-Grant Colleges and Universities, in Washington, in November, 1930, shows that little change has taken place during the last year in the number and kinds of projects undertaken with Purnell funds in the fields of home management. Nine additional projects have been started during the year—a somewhat smaller number than in any of the four preceding years. Four projects previously undertaken have been completed. The total number of active projects on November 1, 1930, was 39, as compared with 34 a year earlier.

Interest still seems to be turning, as in the two previous years, to studies in equipment and in the management of finances rather than in the management of time and in food consumption. Only 2 studies are now under way in the use of time, and only 4 in food consumption, as compared with 13 in equipment and 10 in standards of living. The remaining 10 projects in the present 39 do not fall within any of the 4 projects outlined by the committee, although some of these were listed in the last report as standards of living projects. All but one of these miscellaneous projects, however, are concerned with some phase of the management of finances, the exception being devoted to housing.

This report was given by Hildegarde Kneeland, of the Bureau of Home Economics, United States Department of Agriculture, who was chairman of the committee on rural home-management studies.

DALLAS COUNTY 4-H FORESTRY CLUB
A Shelterbelt helps to make the house a home.
BEFORE!
HAPPY STOCK
WHICH FARM IS YOURS?
Ask the 4-H Foresters
how to plant good windbreaks

4-H forestry club members show usefulness of windbreaks

4-H Foresters Demonstrate Windbreaks

BETTER windbreaks around farm homes was the subject of demonstration and contest work carried on in 18 Iowa counties during the past year, according to I. T. Bode, extension forester. A total of 30,240 people watched 4-H club boys and girls demonstrate proper spacing of trees, kinds and grades of trees to use, arrangement of windbreaks, and methods of planting trees. These demonstrations were given at five of the larger fairs throughout the State, including the State fair. The booth shown in the illustration was used for the work. It was prepared by the forestry extension service and shipped to the various fairs.

The effect of windbreaks in deflecting air currents and their influence in protecting farmstead areas were shown by means of an electric fan and paper streamers mounted on staffs. One staff was placed behind the windbreak and one out in the open. The windbreaks between the fan and the buildings were mounted on removable blocks so that comparative values of 1-row, 2-row, and 3-row windbreaks could be illustrated, as well as the inefficiency of windbreaks which had been spaced too closely or had been allowed to become thin at the bottom because of grazing of livestock.

In the box at the left tree planting was demonstrated. The box was constructed with a glass front, which formed one side of the holes that were dug. By this means spectators were enabled to look into the hole and observe details of planting. Damp sawdust was used instead of dirt. It was lighter in weight and formed a light-colored background against which the tree roots stood out plainly.

The team in this picture was from Dallas County, Iowa. The girl is Alvoretta Hunt of Adel, and the boy is Wayne Gutshall of Van Meter. They demonstrated at the State fair and at the Midwest Horticultural Exposition at Shenandoah, Iowa, winning first place at both fairs.

This demonstration program was carried out in connection with the Iowa Farm Grove History Contest, in which 25 points were allowed for activity of the entrant in arousing interest in tree planting. Miss Hunt was the winner of the girls' State prize in the contest, and the boy who won first place was Robert Porter of Black Hawk County. Each was awarded a trip to the National Boys' and Girls' 4-H Club Congress and a medal from the American Forestry Association. Railroad fares and expenses for the trips were furnished through the State club office of the agricultural extension service, the State conservation association, and by Earl Ferris of Hampton, Iowa.

Aiding Families in the Drought Area

MYRTLE M. WELDON

State Home Demonstration Agent, Kentucky Extension Service

WHEN the drought situation in Kentucky began to show signs of becoming serious, the home demonstration department of the State extension service endeavored to help meet this situation by initiating and directing a number of emergency measures. Suggestions were given to home demonstration agents for possible emergency activities. A number of home demonstration agents took the initiative in attempting to meet the needs of their counties. The press, circular letters, demonstrations, exhibits, radio, and other means were used to disseminate information.

Among the many serious situations faced as a result of the drought was shortage of food for the family with even greater prospect of shortage during the winter months. Shortage of feed for stock resulted in flooding the market and consequent low prices for farm animals. Probable shortage of clothing during the winter months was another inevitable result of the situation.

Among the drought emergency activities encouraged and directed by members of the extension staff in Kentucky, probably the most important were the following:

(1) Production of a fall garden. The spring and summer gardens in many parts of the State did not produce a crop and in sections not so seriously affected, produced only part of a crop. The planting of a few quick-growing crops for the late fall garden was urged. Particular stress was laid on such crops as turnip greens in sufficient quantity to can.

(2) Canning of all available products. Of course, most rural people do some canning, but the drought situation necessitated canning every available garden crop. Particular emphasis was given to the canning of meat and poultry, since feed was high and the price brought by these farm products was low. Home makers were urged to can their culls for winter use.

(3) Preservation of eggs for winter use was also encouraged.

(4) Making of sauer kraut. Cabbage was one of the vegetables which withstood the drought better than others and there was a fair crop in a good many sections. The price of cabbage on the market has been quite low. The home demonstration department has urged the making of kraut in quantity to take the place of other vegetables which were not available.

During the winter months clothing relief is being stressed. In a number of counties the clothing-project leaders have been organized into relief groups and are taking an active part in the assembling, renovating, and remodeling of clothing for needy families. Early in the winter the members of the Whitehall Club in Madison County had already made, under the supervision of their clothing leaders, 103 garments for families in their community.

Using Department Films

Extension workers who use and handle motion-picture films of the United States Department of Agriculture may find food for thought in the fact that films made primarily to show approved agricultural practices are being successfully used by teachers in grade schools, high schools, and Americanization schools for teaching purposes.

Grade teachers, for example, recently used the following films to summarize the subject of lumbering, studied by fifth-grade classes in geography: Winter Logging in the White Mountains, Lumbering Pine, Red Enemy, The Forest and Wealth, and The Forest and Health. After seeing these films in the department's projection room, the fifth-grade geography students returned to their respective classrooms, where they were questioned on the contents of the films. The teachers found that in addition to seeing and learning lumbering methods and practices, the children had absorbed other lessons embodied in the films, namely, the conservation of natural resources, how to prevent forest fires, the vital influence that the forest has on water supply, and how the forest ministers to the spiritual and physical wealth of mankind.

That department films have been found to fit into school curricula is indicated by the following list of those used during the past school year by directors of visual education in the Washington, D. C., public schools: Uncle Sam, World Champion Farmer; The Horse and Man; Corn Belt Derby; Dates—America's New Fruit Crop; Citrus Fruit in Florida; Wheat or Weeds; Beets from Seed to Sugar Bowl; Sugarcane and Cane Sugar; Rice—From Paddy to Bowl; John Smith vs. Jack Frost; Goodbye Boll Weevil; Trees of Righteousness; Friends of Man; Pines from Seed to Sawmill; Trees of To-morrow; and Forest Fires.

The department's films are being used in Americanization schools in the National Capital as well as in the public schools not only to teach agricultural methods, but to teach English. One teacher found that foreign-born students from agricultural countries increased their vocabulary very rapidly by studying the film captions explaining familiar agricultural subjects shown in the department's educational films. Using the film captions to teach English to foreign-born students is one use of the department's films little dreamed of by the film editors.

These films are being used not only as a part of the regular school work but also for supplementary education by one high-school teacher, who shows them during the recreation period. Naturally, entertaining films are selected. Among those used are such subjects as: When Elk Come Down; Cloud Busting; Wild Flowers; Roads in Our National Forests; King Snow Holds Court; Wheels of Progress; Bamboos, the Giant Grasses of the Orient; Clouds; Under the 4-H Flag.

How films of the department may be put to intensive use is illustrated by the extension worker who arranged with school authorities to use the schoolhouse to show his films to specialized adult groups after school hours, but left the films and the projector for use of the school teachers the following day. The teachers, having seen the films in advance, could determine what films could be used to advantage in connection with their school work and how they could best be introduced. Thus, a large and varied audience was reached at one borrowing of the films.

At a recent meeting of the Franklin County, Vt., home demonstration women, every one of the 27 women present wore a well-planned costume, according to Lillian V. Anderson, extension nutritionist in Vermont. In every case the hat matched or blended in color with the rest of the costume and the lines were becoming.

Extension Service Review

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FEBRUARY, 1931

Extension Research

Extension workers appreciate keenly the fundamental need for scientific research as the basis for subject-matter programs, since it is the business of the extension system to acquaint farmers and their families with the results of State and Federal research and assist them in its practical application. Scientific information regarding the organization and conduct of extension is of almost equal importance if this nation-wide system of rural education is to grow and develop in an orderly and efficient manner. It would be a strange paradox if those engaged in the dissemination of scientific information should not apply the same principle of scientific study to the conduct of their own work.

A national educational movement of magnitude can not afford to drift along without facts as to what is taking place in this field. Scientific data must be available for analysis and study preliminary to the making of decisions. Theories and opinions must be able to withstand the test of research if they are to remain a part of extension teaching.

The rank and file of extension workers are also concerned with the building up of a body of scientific information regarding the organization and conduct of extension teaching. As members of a new profession they must recognize that the full development of extension teaching as a profession is directly dependent upon the establishment of principles, procedures, and technique which grow naturally out of scientific study.

A start has been made in the development of extension research through the field studies the Federal Extension Service and the extension services of some 21 States have been making. Much valuable information has been brought out by these studies, and considerable progress has been made in perfecting methods of study applicable to extension. Useful as these early studies have proved, they afford little more than an indication of the possibilities of the use of reliable data in increasing extension efficiency.

With an enterprise involving the expenditure of more than $25,000,000 of public funds annually, a 1 per cent increase in effectiveness is equivalent to an increase in appropriation of $250,000 per year, while a 5 per cent increase in efficiency is equal to a $1,250,000 increase in budget. The possibilities are so great that the time is probably not far distant when the larger States, at least, will be setting funds aside each year definitely for studying the extension job to determine more efficient methods of conducting the work.

Drought Relief

Drought relief has entered into a new phase. The passage by Congress of the $45,000,000 appropriation to provide loans to farmers for making the 1931 crop brings with it further responsibilities to the county agricultural agents in the drought area. These loans are being made to farmers who can not obtain financial assistance from local sources. Each farmer must submit with his application information regarding the crop or crops he wishes to plant and the work stock for which he must buy feed. He must report, also, his present indebtedness and the acreage and yield of crops grown the year previously. His application must be submitted to the local advisory committee, consisting of well-known citizens of the county, usually one banker and two farmers. In many cases, this advisory committee is identical with or is a part of the county drought-relief committee. The county agricultural agent is not on this committee, but he must be prepared to serve as its adviser in many of the cases that are brought to its attention.

The act is being administered in order to provide the maximum amount of financial support possible in producing the 1931 crop and rehabilitating the agriculture of the drought area. Production and rehabilitation are, also, the immediate and urgent objectives of every county agricultural agent in the area. The farmers' seed loan office, which will administer the relief act, anticipates, therefore, that each county agricultural agent will see to it that the benefits of the act have the fullest application to his county. If the county agent will inform all farmers in his county of the availability of the credit facilities of the act and will aid those who desire such assistance in making proper application for funds to meet their requirements, the act will accomplish its purpose. If such cooperation is not given by the agent, the act will be a failure in that county. The responsibility is heavy, but we are confident that extension agents in the drought area will meet it fully.

Cash or Credit

Making cotton a cash rather than a credit crop is the theme of a particularly timely article by Assistant Director C. E. Brehm of the Tennessee Extension Service in this issue of the REVIEW. The article has its lesson not only for the cotton farmer but for all producers of agricultural products.

"There are few vocations in life," says Mr. Brehm, "from which the individual can make sufficient income in 120 days to support him for 365 days in the manner in which he wants to live." He says, further, "The size of the farm income depends on a variety of things to sell at seasonable times during the year and this means getting as many hours and days labor as possible engaged in producing something to sell in a year." With these two ideas as his foundation, Mr. Brehm works out a simple but effective program for transferring farming from a credit to a cash basis. Plant good seed of improved varieties. Plant on good land and fertilize liberally. Plant no cotton on land yielding less than one-half bale to the acre. Plant only as much of a crop as you can harvest without weather damage. Market through a cooperative association to insure getting full value for the quality of your product. Grow as much of the living for the family as possible. Keep some livestock, grow the necessary feed required, and sell the products. Live as little on credit as possible. Keep the cash coming in.

These are the things Mr. Brehm stresses. They have their application to farming in any county and at any time. The extension agent who has succeeded in getting any considerable number of farmers in his county to make this shift from a credit to a cash basis for living and farming has made a genuine contribution to the solution of the farm problem.

Drought Relief Measures

C. W. WARBURTON
Secretary, National Drought Relief Committee

DEFINITE aid is now obtainable by farmers in the drought area who are in need of financial assistance to make a crop in 1931. The $45,000,000 drought-relief act passed by Congress and approved by the President provides for the making of loans to farmers who are unable to obtain financial assistance from local sources for the purchase of seed, fertilizer, feed for work stock, and fuel and oil for tractors. How these loans are to be obtained and under what conditions they will be made are questions which no doubt are uppermost in the minds of many farmers.

Blanks to be used in applying for loans have been supplied to county agricultural agents who are distributing them to banks and other places where they will be readily available for farmers. Information regarding where these blanks can be obtained is being printed in local papers throughout the drought-area. These blanks are accompanied by printed instructions on just how to obtain a loan. County agricultural agents, local bankers, and others will help individual farmers in filling out their applications and in making the necessary arrangements. In making application, information must be given by each farmer regarding the crop or crops he wishes to plant and the work stock for which he must buy feed. He will also be asked to report his indebtedness and the acreage and yield of the crops he grew in 1930. Each applicant will sign a promissory note and as security will give a mortgage on the crops he is to grow in 1931.

Local Advisory Committee

In each county a local advisory committee will pass on all applications for loans. This committee consists of well-known citizens of the county who have the confidence of farmers and business men. The committee in most cases is made up of one banker and two farmers. All applications for loans by individual farmers must be submitted to this local committee for approval.

When an application for a loan has been approved by a local committee the application will be forwarded to one of the regional offices through which the act will be administered. These regional offices will be located at several convenient points in the drought area. There should be little difficulty experienced in handling applications for loans promptly, as the Department of Agriculture has been administering similar but smaller appropriations for loans in various flood, drought, and storm areas since 1921.

When the application for a loan reaches the regional office, it will be examined by a person familiar with crop-production requirements in the particular State in which the applicant lives, who will determine how much is needed for seed, fertilizer, and feed. A lawyer attached to the staff of the office will examine the note and crop mortgage to see that they are in legal form. Final decision as to whether or not the loan can be granted will be made at the regional office. When a loan is approved, check will be drawn to the borrower. The first check will be for only a part of the loan, as the funds will be advanced in installments as needed by each borrower.

So much for the procedure to be followed in obtaining a loan from the Government for crop production purposes. Before I leave the subject, however, let me make two things clear. First, loans will be made only to those who suffered serious crop losses from drought or storms in 1930; and second, these loans will be limited to those who have no other way to finance their crop production in 1931. Those whose crops were not damaged or destroyed in 1930 and those who can obtain funds or supplies from other sources such as local banks or merchants are not included in the provisions of this relief measure.

Now let us see what is taking place along other lines in connection with drought relief.

Road Funds

On December 20 the sum of $80,000,000 was appropriated to be apportioned among all the States as a temporary advance of funds with which to meet Federal-aid road funds already provided. The States are thus relieved of the necessity of providing immediately funds of their own to match the regular Federal-aid road funds that are available to them, and provision is made for the reimbursement of the sums advanced over a period of five years commencing with the fiscal year 1933, by making deductions from the regular Federal-aid appropriations.

These advanced funds, together with the regular Federal-aid funds already available, make possible an immediate expenditure for Federal-aid road construction, supported entirely by the Federal Government, to the amount of $168,000,000.

Of this sum, the amount available for expenditure in the 21 States in the drought area is $85,000,000, and, to the extent that climatic conditions will permit, these States are thus enabled to begin at once road work totaling that amount.

Roads in National Forests

The Forest Service is pushing the building of forest roads and trails in the national forests and since July 1, has expended $278,000 on this work. Present-day road building demands the use of machinery and skilled operators, but local farm labor is being employed on all projects wherever it is at all practical. Heads of families are given preference and sometimes a new crew is taken on every two weeks to benefit as many families as possible. Supplies are bought locally, which also offers a little extra income to some farmers in the vicinity. The climate of most of the eastern forest region permits winter road work and construction programs will go forward as rapidly as available funds permit. The emergency appropriation previously mentioned provides several hundred thousand dollars additional for work in the national forests in the Eastern and Mississippi Valley States.

The buying of land needed for the national forests is also being actively pushed in the drought area. During the period from July 1 to November 24, 1930, 96,000 acres of land in the States severely afflicted by drought was bought by the Forest Service, for which $309,000 was paid. Purchase of 500,000 acres more in the drought area has been approved and payment will be made as soon as the titles are cleared through the office of the Attorney General. These sales will bring $1,639,000 of Federal money into the drought territory. Prospective purchases of forest land which are being negotiated as fast as possible include about 630,000 additional acres and involve an expenditure of about $2,410,000.

A committee representing the Public Health Service, the Red Cross, and the Department of Agriculture has prepared a special publication entitled, "Buy Health Protection with your Food

Money," which has been sent to all home demonstration agents, Red Cross workers and other trained persons who are interested in helping to plan meals which will protect the health of those families who have had to cut down their food allowance because of the drought or unemployment. This publication contains minimum market orders for a week for families of different sizes and other nutrition information in a handy and usable form.

Fall Gardens

The large number of fall gardens planted in the southern drought States after the fall rains began have been of great value in supplying winter food for farm families. In the Oklahoma drought counties it is estimated that 38,000 farm families planted gardens. Many of these garden vegetables have been canned. In Arkansas, the canning of 22,359 cans of beef and 3,568 cans of chicken is reported.

In Kentucky, home demonstration agents have helped in the canning of vegetables, fruits, and cull beeves and chickens, and in the preservation of eggs. The relief work in Kentucky is now largely directed toward the clothing problem. Home demonstration clubs and relief committees, under the direction of home demonstration agents, are busy remodeling and renovating clothing for needy families in the county. The members of one home demonstration club in Madison County have already made 103 garments for families in their community.

The people in Webster Parish, La., have continued their good work. After canning all the vegetables available in the parish for their winter food supply, they planned to can at least 150 beeves before Christmas. Most of this canning was done at community centers. The school board bought sealers and 11 steam retorts and the policy jury bought a carload of cans—50,000 cans—for sale at cost and for use in canning surplus supplies of vegetables to be donated to those who had none.

Cooperative Buying

Farmers in several States are pooling their feed orders and buying cooperatively in order to save money. In Mississippi, about 200 carloads of feed were bought by local farm bureaus at an estimated saving of $5 per ton or a total saving of $20,000. In Butler County, Mo., the combined benefits of pooling and of the reduced freight rates available to farmers in the drought area on shipments made before November 30 amounted to 20 cents a bushel on wheat, 25 cents a bushel on corn, and 25 cents a bushel on oats.

For many farmers in the drought area, the winter will be a difficult one. Very generally, however, folks are working together, making the most of what they have. Those who are able are extending help to the unfortunate ones, who have little or nothing. County, State, and National agencies are working together to provide employment, and now that Congress has made provision for seed and fertilizer loans, the problem of how to finance this spring's planting should be less difficult of solution.

A 4-day short course for lumbermen on making floor plans, elevations, and perspectives of common farm buildings was sponsored cooperatively by the University of Nebraska and the Nebraska Lumber Merchants Association. I. D. Woods, State extension engineer, reports that, because of their experience some of the men accomplished as much in this short course as the average college student does in half a semester of semi-weekly laboratory periods.

Achievement Day Radio Program

NEW YORK 4-H club members assembled at Station WHAM at Rochester to broadcast their contribution to the first National 4-H Achievement Day radio program on November 8, 1930. The number of boys and girls who participated in this one State gives an indication of the hundreds who participated in the entire program. Thirty-six States cooperated with the United States Department of Agriculture in broadcasting a joint Federal-State program over 44 stations. For the first 15 minutes the entire network broadcast music by the United States Marine Band and a talk by C. W. Warburton, director of extension work. Following this, the network was temporarily dissolved, and during the next 30 minutes each of the 44 participating stations broadcast a separate 4-H club achievement day program. For the last 15 minutes all of the 44 stations were again hooked up for more music by the Marine Band and a talk by Arthur M. Hyde, Secretary of Agriculture.

Farm Board's First Annual Report

The first annual report of the Federal Farm Board, for the year ending June 30, 1930, has been recently issued. This 75-page report is presented as a record of attitude, policy, and preliminary experience, rather than of final accomplishment.

There are five main divisions to the report: (1) Development of cooperative marketing associations; (2) surplus control measures, including stabilization operations, undertaken during the first year; (3) loans made from the revolving fund; (4) various other phases of the board's work during its first year of operation, such as cooperation with other agencies and foreign agricultural information service; and (5) the board's organization and personnel. There are also two appendixes which give the agricultural marketing act in full and seven tables relating to loan operations.

Copies of the report have been sent to all extension workers. Additional copies may be obtained free upon request to the Director of Information, Federal Farm Board, Washington, D. C.

Making Cotton a Cash Crop Instead of a Credit Crop

C. E. BREHM
Assistant Director, Tennessee Extension Service

LOW-PRICED cotton, again emphasizes the need for readjustment in the cotton areas to a safer farming program, the chief objectives of course being reduction of cotton acreage that a higher price for a smaller crop may prevail, and, simultaneously, a more permanently profitable system of farming. The greatest readjustment needed is from a credit crop to a strictly cash crop. Since the Civil War, when the first crop was made in 1866, it has been customary with the majority of farmers to grow the crop on credit. Grim necessity forced every farmer to grow those first crops on credit extended from New York, until enough money was accumulated for food, livestock, feed, and seed to finance himself. The South was bankrupt and a climate favorable to the production of cotton, a commodity the world needed and wanted, was the only credit asset.

Instead of the custom of growing the crop on credit becoming less pronounced as the years passed, it became more so, until to-day almost the entire agricultural credit structure of the cotton States has been based on cotton and it calls into use every form of modern instrument of credit. If the crop were more largely grown on a cash basis, and the experience of many farmers indicates that this can be done, during periods of low prices and adverse growing seasons which have occurred at rather regular intervals, at least the cotton farmers would be out of debt for the crop. There is no doubt that their financial status and standard of living would be better, and there is every logical reason to indicate that the production of cotton would not be as large as at the present time and the prices would be higher.

Cash Crop

Be that as it may be, there is only one safe way to grow cotton over a period of years, and that is as a cash and not as a credit crop. There is plenty of evidence to substantiate this statement, especially this year. On account of low prices from the widespread depression and unprecedented drought, many farmers to-day are in the same financial status in which farmers found themselves before making a crop in 1866; financial and credit resources exhausted, with a limited amount of food and without sufficient feed to carry the livestock through the winter. Why is this the case? The answer is easy; because they have confined their farming largely to cotton and grown it on credit. The price of cotton over a series of years does not average high enough to pay for the cost of credit and permit the dollars received for cotton to pay for the other necessities in the way of feed for livestock, clothing and food, which the family wants and must have, much less many comforts. It has not been possible to build up a financial and credit reserve to weather such periods as were experienced in 1930, and such periods as have recurred with particularly marked frequency every six or seven years. On the other hand, the experience of those who have grown cotton as a cash crop has proved that they are in the best financial condition. This argument speaks for itself and should be convincing to everyone.

A Constructive Program

Now, how can cotton be grown as a cash crop? The following program, briefly outlined, will make it possible to grow it as a cash crop, and the soundness of this program is confirmed by many farm record demonstrations conducted with cotton farmers in Tennessee.

1. Grow as much of the living for the family as possible; fruit and vegetables for home use, storage, canning, and to supply the family throughout the winter months; also poultry, eggs, milk, butter, and meat. A good dairy cow, a sow, and chickens are a very good adjunct to any cotton farmer's operation. They at least insure a good living for the farmer and frequently a surplus to sell, which helps to pay some of the expense involved in making the cotton crop. There is no doubt that instead of farming for dollars, we are going to have to get back to farming for a living, and one of the most certain ways to begin is to grow a large portion of the family requirements. These can be grown on the farm far more cheaply than they can be purchased.

2. Plant good seed of improved varieties that staple around an inch or better under normal seasonal conditions. There is always a more active demand for the longer staple than for short cotton and a premium price offered for it over the shorter lengths. This is especially pronounced during years of heavy production and when there is an abundance of short cotton. This premium, of course, varies according to the season and the difference in staple lengths, but there are times when it ranges from 150 to 200 points, or 1½ to 2 cents a pound between staple lengths of seven-eighths and 1 inch.

3. Plant cotton on less acres and endeavor to secure higher yields per acre. This means plant cotton producing one-half bale to the acre or better on good land and use liberal amounts of fertilizer. The average production for the cotton States is about one-third of a bale to the acre. This, of course, means that a large area of the land planted to cotton yields less. According to the United States Department of Agriculture, the average cost of producing a pound of cotton lint throughout the cotton belt is 18 cents. With prevailing prices, it is apparent that cotton is not making money for a large number of farmers. On the other hand, where a bale to the acre is made the cost drops correspondingly, so that even with 10-cent cotton it is possible to get a profit over seed and fertilizer and some return for the labor. For example, consider the case of an individual who grew 4,898 pounds of lint on 5 acres. The seed and fertilizer cost was $67.50. This cotton has not yet been sold, but assuming it nets 9 cents a pound, this is $440.82, or $373.32 after the cost of seed and fertilizer is deducted. It does not take any great mental effort to calculate that there is a greater opportunity for profit in a yield of this kind than in a yield of 140 pounds of lint per acre, or 700 on 5 acres, which at 9 cents would be $63.

Plant Clover

Land which yields less than one-half bale to the acre should not be planted in cotton. It will be more profitable to plant such land in Japan clover and let it improve. The Japan clover seed from such land will yield a higher return than cotton. The continuance of planting much of this poor land in cotton will hold down the total production of cotton; also, it will enhance the price of that grown on better lands.

4. Plant an acreage that can be picked promptly without weather damage. An-

nually there is more cotton planted per plow than can be picked promptly with the help available. It weather damages badly, which is a cause of low price for such cotton. For example, in December, 1930, such cotton sold 350 to 480 points below bright cotton of the same staple. This is a discount of $17.50 to $24 a bale.

5. Grow some livestock or livestock products to sell and the necessary feed for them, and as many other supplementary crops as possible. It is well known in farm management that crops yield a higher income than livestock for labor given, but they do not permit a year-round opportunity for labor return. In other words, the production of livestock, or livestock products, affords an opportunity to get some income from labor that otherwise would not occur during the winter, when it is not possible to be working in a crop. The farm income results from something to sell, and all things being equal, the more things that can be produced without conflict with each other for the farmer's time to be sold at seasonable times during the year, the larger the total farm income and the greater the opportunity for profit.

Increase Output

Not long ago I was trying to make clear to a group of 4-H club boys this principle of farming and I asked them how long it took to make a cotton crop. One of the boys replied, "About 120 days." Then I asked these boys, "Now, what are we going to do the rest of the year, or time we are not busy in the cotton and corn crop?" There was no answer for a few moments. Finally one boy said, "Sit in the shade, I reckon." Then I went on to calculate that a farmer making 18 acres of cotton and about 200 pounds of lint, which is a good yield for this type of farmer, or a total of 3,600 pounds, would, at 10 cents per pound, receive $360 gross cash income for the year. Including the value of the seed this is not sufficient to support the family for the year, yet on many farms cotton is the only crop sold. This explains the situation with most 1-crop farmers. There are very few vocations in life from which an individual can make sufficient income in 120 days to support him for 365 in the manner in which he wants to live, and certainly farming, especially on a 60 to 75 acre farm, is not one of them when the price of cotton is as cheap as it has been during the past year.

The size of the farm income depends on a variety of things to sell at seasonable times during the year, and this means getting as many hours and days labor as possible engaged in producing something to sell in a year.

This is why dairy cows, poultry, and hogs fit in well with cotton, which does not necessarily imply going into the poultry, dairy, or hog business on a large scale, but rather on a moderate scale according to the cost of feed and ability to care properly for the stock. Several good cows, 100 good hens, and a few hogs to sell will bring in several hundred dollars a year in addition to the price for cotton, thus contributing to the total farm income. What is more important, the income comes in regularly and pays the store account for other necessities.

6. Market cotton through the cooperative cotton association. Marketing through the cotton association insures getting full value for cotton according to its grade and staple.

These principles, if followed by an increasing number of farmers, may not make any farmers rich, but at least they will insure a comfortable living and cash received from the cotton crop will be almost clean surplus. The individual who practices them is farthest removed from losses sustained when prices are falling and receives the greatest profit when prices are high. Furthermore, there is no doubt that a more universal adoption of such a program will automatically control some of the cotton acreage.

Cooperative Egg Marketing

4-H club boys grade and pack eggs produced by their own poultry

MEMBERS of 4-H clubs are now cooperatively marketing eggs in Belknap County, N. H., under a plan started by Stanley E. Wilson, county club agent. The marketing plan provides that the club members shall sell their eggs in special 4-H cartons stamped with the 4-H clover, the New England label, and the name of the club boy who produced them. These eggs command a premium of 5 cents above the regular market price because they are graded to average 24 ounces to the dozen, contain no air cell larger than one-eighth inch, and show no blood spots.

The above picture shows two of the leading members in Belknap County grading and packing some "New Hampshire Specials." The boy on the left is Edwin Goodwin. He now has about 60 pullets in winter quarters and plans to go into the chicken business on a large scale next year by building up his flock to at least 500 birds. The boy on the right is Robert Smith. He was the first boy in this county to market graded eggs in the special stamped cartons. Robert purchased his chicks last spring, remodeled and sterilized his hen house, and then, by following the recommended practices, raised all of his chicks to maturity. As a prize for raising every one of his chicks to maturity, this spring a New Hampshire hatchery is giving him, free of charge, 50 baby chicks.

Rural Electrification in Alabama

Rural electrification in Alabama was inaugurated in 1924 as a joint project between a local power company and the Experiment Station of the Alabama Polytechnic Institute, with the extension service as a cooperating agency, for the purpose of extending transmission lines into rural communities and offering electric current at reasonable rates, according to P. O. Davis, Alabama editor and director of publicity. A joint agreement was signed between the power company and the experiment station whereby the power company agreed to erect lines and install equipment and the experiment station agreed to do research work which would be directed toward finding equipment best adapted for farm and rural home use.

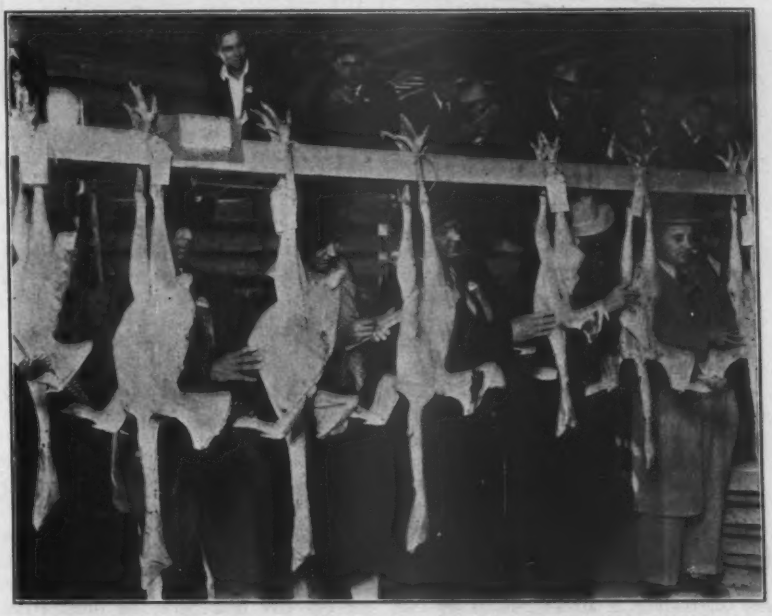
Surveys Made

County agricultural agents, home demonstration agents, and other extension workers have cooperated in the making of surveys to determine whether or not lines should be built, and where the electric service is available, they have cooperated by showing the people how it can be used to the best advantage. As the farm people using electricity must consider it as an income producer as well as a convenience, Mr. Davis reports that special work has been done in recent years to assist rural customers to make electricity increase their incomes. Examples of this special work include the use of electric lights in poultry houses to stimulate egg production during the fall and winter when egg prices are high; the use of electric lights to control the tomato worm and other insects; and electric refrigeration for storing and preserving perishable products, thereby enabling the rural producer to sell such produce profitably.

Extent of Service

Rural electrification is one of the aims of extension work in Alabama because it helps extension workers provide opportunities for increasing the family income and remove much of the drudgery from the work on the farm and in the home. At present, 1,689 miles of transmission lines are serving farmers in 63 of the 67 counties of the State. These lines are serving 8,500 rural customers in addition to 13,500 customers in 150 towns with a population of 1,000 or less. Considering the customers in these towns as being rural customers, there are now 22,000 rural people in Alabama who are being served with electricity.

Texas Turns to Turkey Grading



Ninety-six men and women qualified as turkey graders at schools held in Texas

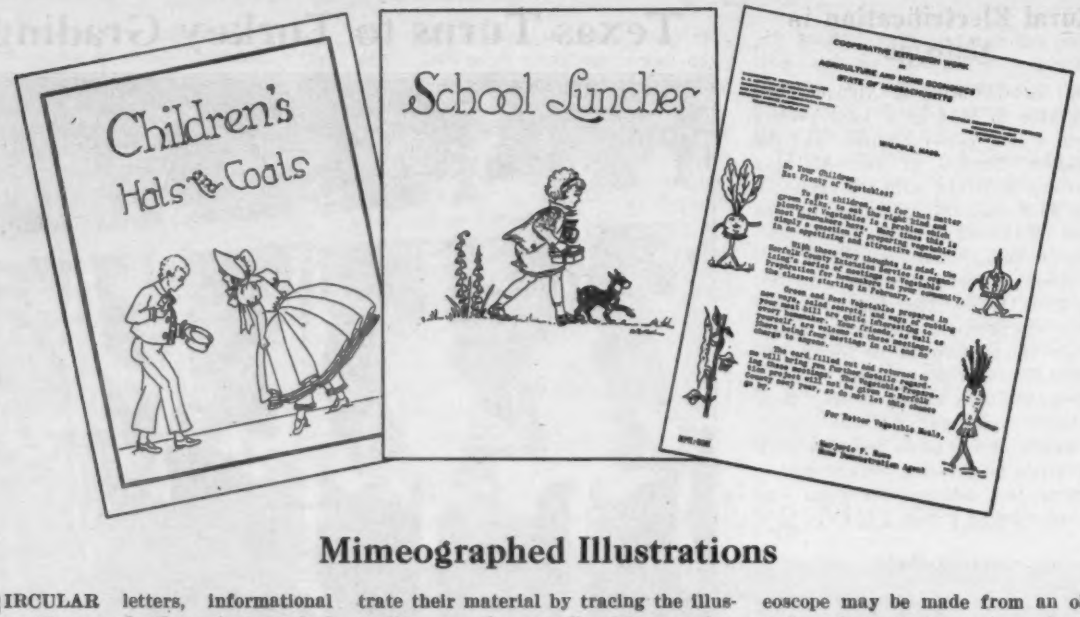
IN THE largest turkey-grading school yet conducted by the United States Department of Agriculture, at San Angelo during the week of October 20th, Texas took a definite stand for the eventual complete standardization of the huge Texas turkey crop on the high quality United States standards. There were 135 registered students, including 12 county agricultural and home demonstration agents, and 96 were given permits to procure Federal-State graders' licenses should the need arise.

The school was arranged by the extension service and the Texas Department of Agriculture, with the Bureau of Agricultural Economics of the United States Department of Agriculture furnishing the faculty headed by T. W. Heitz, associate marketing specialist, and assisted by R. R. Slocum, George H. Powers, and Lester Kilpatrick. H. L. Shrader, poultry specialist of the Office of Cooperative Extension Work, Washington, D. C., was one of the instructors, and W. E. Newlon, poultry specialist of the California Extension Service, another. Active cooperation from O. B. Martin, director of Texas Extension Service, and E. N. Holmgreen, Texas extension poultry specialist, was given in the conduct of the school.

Schools for Farmers

County and home demonstration agents of five west Texas districts met at San Angelo during the week and were given sufficient acquaintanceship with the grading system to enable them, in cooperation with local dealers and cooperatives, to conduct a series of follow-up 1-day schools for farmers in the producing areas. At these schools the turkey producers, especially those conducting or living near turkey-raising demonstrations, were shown how to fit birds to make the high grades, and how to handle them to prevent costly bruising. Much was made, too, of the fact that later markets are usually better for Texas turkeys because of price and because the relatively warm Texas weather delays maturity and the fattening process in the fall. Farmers were shown how to pick out the birds that should be held for further feeding.

The success of this effort with farmers is seen in a report received from C. W. Lehmberg, county agent of Runnels County, in which he states that of 2½ cars of turkeys handled there for the Thanksgiving market 35 per cent of the turkeys were prime, 49 per cent choice, 14 per cent medium and only 2 per cent common. This percentage of the top grades is much higher than most people would have attributed to Texas turkeys. The improvement is believed to be the result of turkey-growing demonstrations in which feeding and worming played a big part, followed by grading instruction for demonstrators and interested neighbors.



Mimeographed Illustrations

CIRCULAR letters, informational outlines, and other mimeographed material are made more attractive and interesting in Massachusetts by the use of drawings, reports G. O. Oleson, Massachusetts extension editor. According to him, the workers in his State have found that it is relatively easy to illustrate their material by tracing the illustrations on the stencil with a stylus. The only equipment they find necessary for effective mimeographed illustrations is a mimeoscope, a set of styluses for cutting stencils, and a selective file of drawings taken from magazines or from books furnished by stencil companies. A mimeoscope may be made from an old box and a piece of glass or may be bought for as little as $7. In addition to this equipment, it is necessary to have someone with a reasonably steady hand to make good tracings, and someone who takes a little pride in producing a good job to make a neat sheet.

Farm Board Progress

FRANK RIDGWAY
Director of Information, Federal Farm Board

MORE than 1,000,000 farmers have been aided by the agricultural marketing act since it was passed by Congress in June, 1929. Producers of more than 40 farm crops have been definitely assisted in a practical way. All farmers, no matter where they live in the United States, may market their crops through the local, regional, terminal, and national cooperative organizations that are being developed in accordance with the provisions of the act. Seven national agencies have been established by cooperatives with the assistance of the Farm Board. Six of these are sales agencies. Five already are operating, marketing 16 crops—cotton, wool, mohair, pecans, cattle, hogs, sheep, goats, wheat, oats, rye, barley, corn, buckwheat, flax, and grain sorghums. Farmer-owned central marketing agencies handle these crops. The Farmers National Grain Corporation, Chicago, markets grains; the American Cotton Cooperative Association, New Orleans, sells cotton; the National Livestock Marketing Association, Chicago, handles livestock; the National Wool Marketing Corporation, Boston, merchandises wool and mohair; and the National Pecan Marketing Association, Jackson, Miss., sells pecans.

The Farm Board gives counsel and assistance to these national marketing agencies. There are many farmers' cooperatives that have not yet reached the national stage in the development of producer-owned selling organizations. Growers' cooperatives handling more than 30 farm products, not marketed by the national agencies, have been given financial or other aid by the Farm Board. These cooperatives market fluid milk, butter, cheese, eggs, chickens, turkeys, tobacco, honey, rice, peanuts, walnuts, grapefruit, oranges, fresh grapes, raisins, figs, berries, pears, plums, apricots, apples, prunes, peaches, sour cherries, potatoes, soybeans, grass seed, lettuce, cabbage, green peas, beans, and other general truck crops.

New Bulletin Published

All of this information is contained in the Federal Farm Board's new bulletin No. 3, entitled "Farmers Build Their Marketing Machinery." This bulletin deals with the organization and marketing plans of cooperative sales agencies, territories covered, membership, operation and loan policies, and some volume of business. It tells how farmers can market their crops cooperatively through the new national agencies. Copies of the publication may be obtained free by writing to the Federal Farm Board, Washington, D. C.

Oklahoma Home Garden Contest

A STATE-WIDE home garden contest for farm women has been conducted cooperatively for the past three years in Oklahoma by D. C. Mooring, extension horticulturist, and Martha R. McPheeters, extension specialist in foods and nutrition. The objects of the contest are to demonstrate the value of the continuous production of a variety of fresh vegetables of good quality, and to demonstrate a wide use every day in the year of fresh and canned vegetables for the family diet.

Results of the Contest

The enrollments in this contest have been large; 2,783 in 1928, 2,061 in 1929, and 2,437 in 1930. The results of this contest in 1930 show an average of 35 different kinds of vegetables raised by each contestant, and as many as 55 different kinds by some of the contestants. The total monetary value of this work in 1930 was $556,309. This figure includes $197,709 for vegetables canned by the contestants, $239,600 for fresh vegetables raised and consumed, and $118,800 for vegetables which were stored in the fresh state for winter use.

The county extension agents report marked improvement in arrangement of the vegetables in gardens, that is, the perennials are on one side, the long-living annuals are beside them, and the short-living vegetables are on the opposite side of the garden. Along with this improved arrangement have gone better cultivation and care of the gardens. This annual garden contest has contributed to the improvement of the farm women's markets, increased the number of fall gardens, and stimulated the interest and activity of the farm men in garden work.

Among other things, each contestant must carefully read Oklahoma Extension Circular 196, The Home Vegetable Garden; make a plan of her garden previous to planting, and then execute the plan as far as practicable under existing conditions; plant at least two vegetables that have not been grown formerly; and have a garden large enough to supply the family needs.

Stimulating Interest

To arouse and keep the interest of the women in this contest, many agencies are utilized, such as farm women's clubs, garden-judging schools, garden judging, tours, shows, and prizes. Publicity also has been used to advantage. The chief means of publicity employed were extension garden bulletins, monthly articles in the State extension house organ, radio talks, and articles in the leading daily, weekly, and farm papers.

Records and Scoring

Each contestant completing keeps a home-garden record which, when filled in, gives the number and length of rows in her garden, kind and variety of vegetables planted, dates of planting seed, transplanting, first harvest, and last harvest, and the approximate yield in number of pounds, gallons, or bushels. Each contestant also makes a vegetable canning budget for her family, cans its requirements, and then fills in a report blank which gives a record of the season's canning.

The contestants are scored on the following basis: Utility, length of life, and number of different kinds of vegetables, 125 points; arrangement of vegetables to facilitate cultivation and subsequent planting, 50 points; condition of garden (state of cultivation, freedom from grass and weeds, and absence of insects and diseases) 50 points; quality and quantity of vegetables, 50 points; home garden report, 50 points; and vegetable canning budget report, 175 points.

Judging

One-day training schools on garden judging have been held, the persons who attended scoring the gardens in their respective counties. On the average, 11 schools have been held and 168 judges have been trained annually, making a total of 33 schools and 504 judges since the contest was started.

Most of the counties have garden tours; in some counties tours are conducted in as many as 10 different communities. There are also community and, quite frequently, county garden shows. The prizes at these shows are usually garden seed, plants, or equipment for the garden.

National 4-H Music Achievement Test

The national 4-H music achievement tests were broadcast during the regular monthly 4-H club radio program in December and January and will be broadcast on the first Saturday in the next five months. "Music from Many Lands" is the theme for the broadcasts which give music representative of the different countries. On December 6 the music was from America; on January 3, from England, Ireland, and Scotland; on February 7, it will be from Italy; on March 7, from Germany and Austria; on April 4, from Spain and France; on May 2, from Russia, Norway, and Sweden; and on June 6, it will be from Pan-America.

This music is played by the United States Marine Band and broadcast over the regular farm and home hour of the National Broadcasting Co.'s chain of 45 stations.

A mimeographed list, which gives the titles of all the compositions in this series, the names of the composers, and the serial numbers of the phonograph records of these pieces, may be procured from the Office of Cooperative Extension Work upon request.

Recognizing that music memory contests should be supplemented by music achievement tests (that is, one should know the story which the music portrays, the composer, and something about his life) many States have arranged to base such contests upon these broadcasts. As a part of the broadcasts, R. A. Turner, field agent in club work for the Central States, tells something about the story of the music and the composer for each selection.

Profit Made on Certified Seed Potatoes

Ten years ago a 4-H club boy became prominent locally by showing his father and other farmers in the neighborhood of South Merrimack, N. H., the value of using certified seed potatoes. He harvested 24 bushels of potatoes from 1 bushel of certified seed as compared with 11.6 bushels from ordinary seed. According to a news release, the next spring the farmers in the district ordered a carload of certified seed potatoes.

That boy was Fred W. Peaslee, and he has continued to be outstanding in potato growing. He practically worked his way through the New Hampshire College of Agriculture by growing and selling table stock on a partnership basis with his father. This year, by harvesting 320 bushels of potatoes per acre, he was one of the 19 men to qualify for membership in the New Hampshire 300-bushel potato club. His 95 acres of potatoes was a larger acreage than that of any other member of the club. In producing his high yield of potatoes, which is more than [illegible] the State average, Mr. Peaslee's methods were to plow old hay land last spring, harrow the ground twice before planting, use 1,200 pounds of fertilizer and 18 bushels of seed per acre, cultivate the crop twice, and spray and dust five times.

Country Life Has a Jubilee

Musicians play ballads and dance music at the jubilee

A COUNTRY-life jubilee was held September 23–26, 1930, at Jackson's Mill, W. Va. Dana D. Reynolds, who at that time was assistant extension editor in West Virginia, reported that:

Rural West Virginia, old and young, laid aside its workday life and came together in a festival of songs, games, and drama. Underneath the big tent, with a thousand spectators seated and another thousand standing, musicians of the countryside strummed out ballads of the mountaineers, joined in operatic choruses, and fiddled jingling dances while community after community presented its offering. Friendliness, neighborliness, and the play spirit were everywhere.

The purposes of this jubilee were to demonstrate that there could be a noncommercial fair, to bring out that which is distinctive and significant in the life of central West Virginia, to set forth through exhibits and activities the ideal rural community, to make country life more satisfying and meaningful, and to celebrate the tenth anniversary of the founding of the State 4-H Club Camp at Jackson's Mill.

Jackson's Mill

Ten years ago a public service company turned over to the State of West Virginia 5 acres of land (part of the boyhood home of "Stonewall" Jackson, a famous general in the Confederate Army during the Civil War) to be used as a 4-H club camp. This nucleus has been added to until now the camp is an institution covering 90 acres and said to be worth almost a million dollars. Jackson's Mill serves the people and extension service of West Virginia as a center for round-ups, recreation, meetings, safety-day programs, and similar events. The local people justly feel that it belongs to all of them and thousands go there for such events as public picnics, Sunday "sings," and community days throughout the year.

Massachusetts News Contest

The second news and informational contest for State and county extension workers in Massachusetts was held during the annual State conference of extension workers at Amherst, Mass., December 15–18, 1930, according to G. O. Oleson, Massachusetts extension editor.

The contest was divided into two divisions—one for State workers and the other for county workers. In the State division there were classes for news or feature stories written by the specialists, stories written by someone else but about the specialists' project, circular letters written by the specialist, and the best photograph or series of photographs. In this division 20 of the 23 eligible workers were represented.

In the division for county workers there were classes for news stories written by the agents, circular letters written by the agents, the best photograph or series of photographs, material used in putting across a project campaign, county extension house organs, and representative samples of publicity for the entire county. This last class had to include at least 25, but not more than 50, items, at least 5 articles from each department within the county, and at least one article from each agent in the county. In this division, 52 of the 63 eligible workers were represented, and 7 of the 11 county workers not included were new or part-time agents.

Keeping Films Up to Date

Motion-picture films, like clothes, become old-fashioned. From time to time educational films issued by the Office of Motion Pictures, United States Department of Agriculture, are withdrawn from circulation for one of the following reasons: The subject matter no longer is timely; newer and more approved methods are advocated; new scientific discoveries have been made; or all available prints have worn out from usage and funds are not available for purchase of new copies, so the film is automatically retired. Some films are made for specific purposes, such as intensive clean-up campaigns, or to deliver a timely message. When these have served their usefulness they are put on the shelf. The negatives and last copy of all retired films are kept intact and stored in fireproof vaults to form a permanent historical record of agricultural development.

During the past year films on approximately 40 subjects were placed on the retired list. A number of films withdrawn have been replaced by new and better ones—more up-to-date in method, appearance, or subject matter.

Some film withdrawals and replacements are: Control of Hog Cholera, 1 reel, replaced by This Little Pig Stayed Home, 2 reels; Hog Breeds and Hog Management, 1 reel, replaced by How to Grow Hogs, 2 reels; Corn Borer Control in the Corn Belt, 1 reel, replaced by Corn and the Borer, 1 reel, and The Corn Borer and What to Do About It, 2 reels; Layers and Liars, 1 reel, replaced by Layers or Loafers, 1 reel; Wheat Grading Under Federal Supervision, 1 reel, replaced by Wheat Grading, 2 reels.

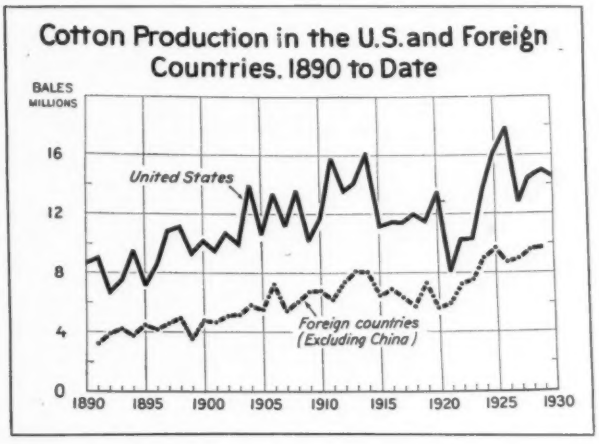
A series of 1-reel films showing damage to white-pine blister rust has been retired and replaced by The Pines, 2 reels, and Blister Rust—A Menace to Western Timber, 2 reels. The films withdrawn are: The Story of White Pine, White Pine—A Paying Crop for Idle Lands, White Pine the Wood of Woods, and White Pine—Beautiful and Useful.

Requests for films may be sent direct to the Office of Motion Pictures, United States Department of Agriculture, Washington, D.C., except in those States which require the forwarding of such requests through the State director of extension.

UNIV

CHARTS TELL THE STORY

STATISTICS AS A MEASURE of the trend of change are essential tools of every teacher. But masses of statistics are confusing. They must be simplified to be practical in educational work. Graphs clarify statistical measurements. They are being used more and more to illustrate the history of changes taking place in agriculture.



Facts of acerage, yield, and total production, seasonal and cycle trends in prices, movements by truck, rail, and water, stocks offered for sale, and periods of greatest shipment—these and other facts are readily explained in graphs.

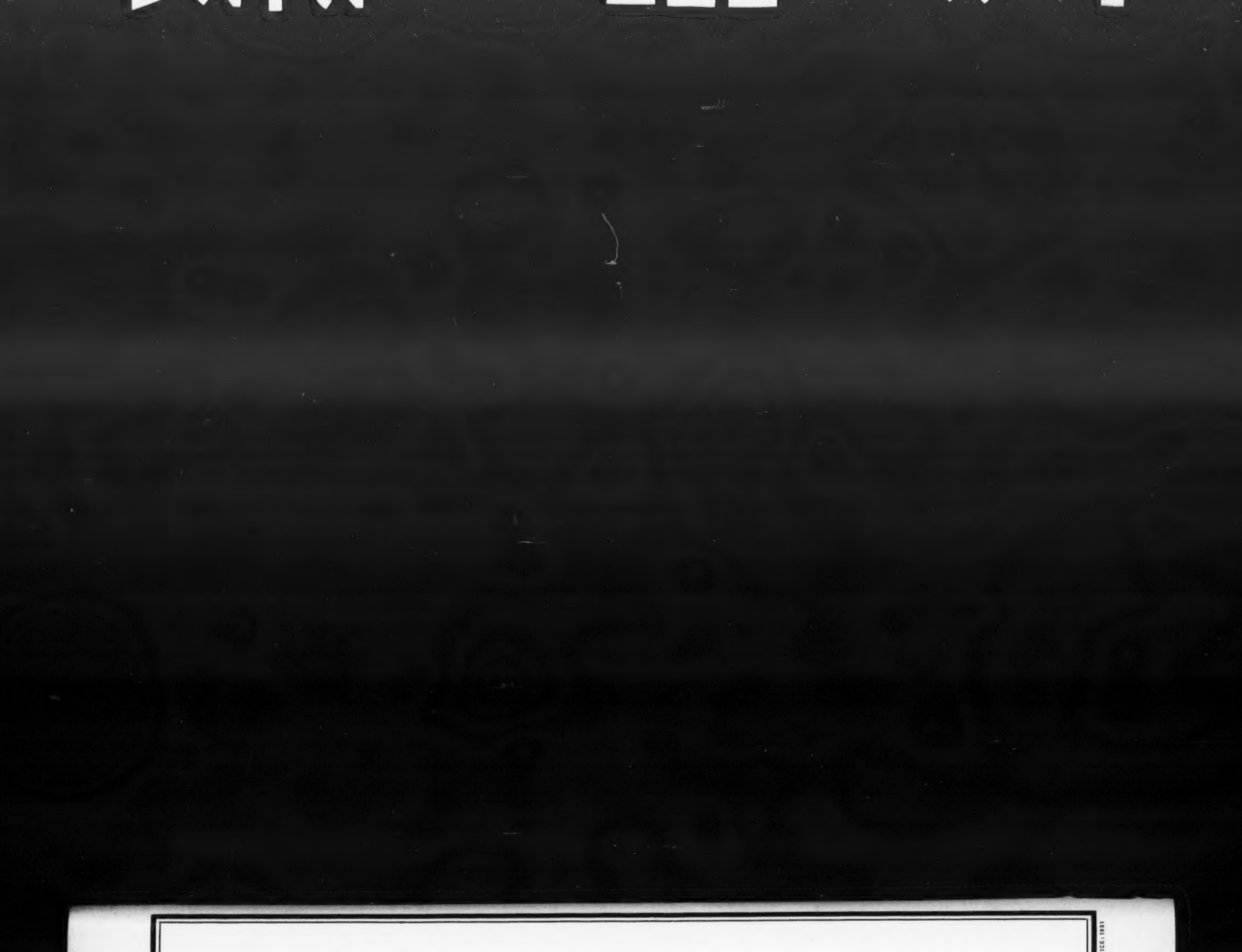
ECONOMIC CHARTS AVAILABLE

THE BUREAU OF AGRICULTURAL ECONOMICS has prepared charts that are available in two types: (1) A standard chart for reproduction in printed publications, or 8 by 10 inches in photoprint or rotaprint form, and (2) wall charts, 30 by 40 inches, which are easily readable at a distance of 100 feet and are adapted for use in extension meetings. These charts may be purchased at cost.

A LIST OF available economic charts giving titles and negative numbers to facilitate ordering or any information regarding economic charts may be obtained upon request to the

DIVISION OF ECONOMIC INFORMATION
BUREAU OF AGRICULTURAL ECONOMICS
UNITED STATES DEPARTMENT OF AGRICULTURE

UNQUESTIONABLY it will take more labor to produce fifty bushels from an acre than it will to produce ten bushels from the same acre; but will it take more labor to produce fifty bushels from one acre than from five?

ABRAHAM LINCOLN

U. S. GOVERNMENT PRINTING OFFICE: 1931